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BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

AUG 22 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Advanced Television Systems)
and Their Impact Upon the) MM Docket No. 87-268
Existing Television Broadcast)
Service)

To: The Commission

JOINT SUPPLEMENT TO PETITION FOR RECONSIDERATION

Sangre de Cristo Communications, Inc., licensee of Television Station KOAA(TV), NTSC Channel 5, Pueblo, Colorado ("SCC"), and its parent company, Cordillera Communications, Inc. ("Cordillera"), by its attorneys, hereby supplement their Petitions for Reconsideration (the "SCC Petition" and the "Cordillera Petition") of the FCC's *Sixth Report and Order* in the above-captioned proceeding.^{1/}

A. KOAA(TV).

In the *Sixth R&O*, the Commission assigned DTV Channel 27 to KOAA(TV). The SCC Petition requested reconsideration of that assignment to the extent it was based on KOAA(TV)'s existing transmitter site coordinates. SCC asked the Commission to use instead the coordinates of the antenna farm on Cheyenne Mountain in Colorado Springs, Colorado -- the preferred antenna site in the market -- given that DTV operations from that

^{1/} *Sixth Report and Order*, MM Docket No. 87-268, FCC 97-115 (released April 21, 1997 ("Sixth R&O")). This supplement is filed pursuant to the FCC's July 2, 1997 *Order* granting petitioners a 45-day period in which to supplement their petitions for reconsideration based on an analysis of their DTV allotment using OET Bulletin No. 69. See *Order*, MM Docket No. 87-268, DA-97-1377 (rel. July 2, 1997).

site would permit KOAA(TV) to maximize its DTV service to Pueblo and Colorado Springs and to compete on an even footing with other television stations in the same market. SCC Petition at 2.

Based upon its further analysis of the Channel 27 assignment pursuant to the technical standards outlined in OET Bulletin No. 69, KOAA(TV) now requests that the Commission assign DTV Channel 42 to KOAA(TV) using the Cheyenne Mountain coordinates.^{2/} As set forth in the attached Engineering Statement of Donald Everist of Cohen, Dippell & Everist, P.C. (the "Engineering Statement") (included in Exhibit A hereto), the assignment of DTV Channel 42 at Cheyenne Mountain would result in substantial public interest benefits. This allotment would satisfy the Commission's DTV spacing and interference criteria, Engineering Statement at 1, and KOAA(TV) would continue to cover its city of license as well as maximize its service to the Pueblo and Colorado Springs market. *Id.* at 2. Moreover, assignment of Channel 42 to KOAA(TV) at the Cheyenne Mountain coordinates would permit KOAA(TV) to implement DTV operations more quickly and to provide a more effective and competitive signal in the market.

Assignment of Channel 42 to KOAA(TV), using the Cheyenne Mountain site coordinates, would clearly serve the goals underlying the development and implementation of the DTV Table of Allotments. The proposed assignment would facilitate enhanced television service to and competition within the Pueblo/Colorado Springs market and ensure

^{2/} The Cheyenne Mountain coordinates are North Latitude, 38-44-43.3, West Longitude, 104-51-41.3. KOAA(TV) is proposing an antenna center of radiation at a height of 98 meters above ground and 2966 meters above mean sea level. The site elevation above average terrain would be 2251.2 meters and the antenna height above average terrain would be 715 meters.

KOAA(TV)'s implementation of DTV service on a more expeditious basis. Accordingly, SCC respectfully requests that the FCC assign DTV Channel 42, using the Cheyenne Mountain coordinates, to KOAA(TV).

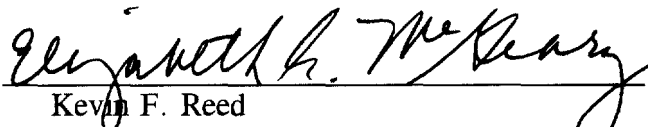
B. TV Translator Networks.

In the Cordillera Petition, Cordillera urged the Commission to adopt rules that would ensure the viability of low power television and TV translator stations during and following the implementation of DTV. This is particularly important for Cordillera's television stations in Idaho, Montana and Colorado which rely to a great extent on translators to reach viewers located in remote, mountain areas. As described in the Engineering Statement, however, it will be difficult for many full power stations in the western states to transmit a DTV signal that reaches its translator network. Engineering Statement at 2-4. Because translator networks play such a critical role in providing primary over-the-air television service in these areas of the country, it is essential that the DTV rules allow full power stations flexibility in configuring their DTV facilities to reach translator networks.

In conclusion, SCC and Cordillera petition the FCC to reconsider its *Sixth R & O* to the extent set forth herein.

Respectfully submitted,

CORDILLERA COMMUNICATIONS, INC.
SANGRE DE CRISTO COMMUNICATIONS, INC.

By: 
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Its Attorneys

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August 22, 1997

EXHIBIT A

Engineering Statement of Cohen, Dippell & Everist, P.C.

**ENGINEERING STATEMENT
ON BEHALF OF
CORDILLERA COMMUNICATIONS, INC.
CONCERNING SUPPLEMENT
TO PETITION FOR RECONSIDERATION
MM DOCKET NO. 87-268**

AUGUST 1997

**COHEN, DIPPELL AND EVERIST, P.C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D.C.**

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)


Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

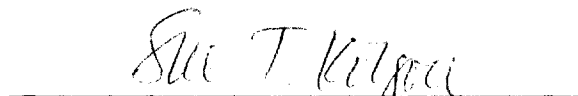
That his qualifications are a matter of record in the Federal Communications Commission;

That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.


Donald G. Everist
District of Columbia
Professional Engineer
Registration No. 5714

Subscribed and sworn to before me this 22^d day of August, 1997.


Notary Public

My Commission Expires: SUE T. KILGORE
NOTARY PUBLIC DISTRICT OF COLUMBIA
My Commission Expires December 14, 2001

This engineering statement has been prepared on behalf of Cordillera Communications, Inc. and Sangre de Cristo Communications, Inc. and provides a further assessment to supplement, "Engineering Statement in Support of Petition for Reconsideration, MM Docket 87-268 on Behalf of Cordillera Communications, Inc., June 1997" filed with SCC's petition for reconsideration in MM Docket 87-268. This further assessment is based upon examination of the Federal Communications Commission's publication OET Bulletin No. 69 released July 2, 1997.

SCC is the licensee of KOAA(TV) NTSC Channel 5, Pueblo, Colorado, assigned DTV Channel 27. As noted in its petition for reconsideration, SCC had studied moving its DTV operation to Cheyenne Mountain located in Colorado Springs, Colorado. Those studies were made without benefit of OET Bulletin 69. The coordinates for Cheyenne Mountain are:

North Latitude: 38° 44' 43.3"

West Longitude: 104° 51' 41.3"

(NAD-27)

SCC also proposed an antenna center of radiation at a height above ground of 98 meters and 2966 meters AMSL. The elevation above average terrain is 2251.2 meters and the antenna height above average terrain is 715 meters.

A further evaluation has been performed after review of OET Bulletin 69 and SCC now requests assignment of DTV Channel 42 in lieu of DTV Channel 27 at the Cheyenne Mountain coordinate and technical parameters specified. Attached hereto

is an allocation study for DTV Channel 42 from Cheyenne Mountain. In addition, a coverage and interference map is provided using the National Telecommunications and Information Administration, Institute for Telecommunications Sciences ("ITS") computer using the communication system performance model--point-to-point irregular terrain HDTV model. The HDTV model uses the Longley-Rice propagation methodology. As shown on Channel 42, KOAA would be able to provide wide area DTV service including principal community coverage of its city of license, Pueblo, Colorado.

Implementation of DTV Channel 42 service for KOAA-TV on Cheyenne Mountain will be more effective and will facilitate early implementation of DTV service by KOAA-TV. For these reasons, it is herein requested that the Federal Communications Commission reconsider and amend the DTV table in Table I of Appendix B of the Report and Order to specify DTV Channel 42 for KOAA-TV with the technical specifications listed in the preceding paragraph.

**NTSC SERVICE AND IMPLEMENTATION
OR DTV SERVICE IN OUTLYING AREAS**

In the mountainous regions of the western states, TV translators are employed to provide service to significant areas where viewers would otherwise be limited in their choices of television programming. In some areas, television service is provided entirely through TV translators.

In many regions, TV translator operations are in remote areas and the primary TV station is picked up for retransmission through direct over-the-air reception over distances of 150 km or greater. It is common for translators to rebroadcast other translators in so called "daisy-chains". In order to provide quality television service, it is critical that TV translators be able to receive a television signal from the primary station having adequate signal strength and quality to ensure acceptable retransmission. Otherwise, the entire daisy-chain suffers diminished quality.

Replication of NTSC service, therefore, involves more than replicating the Grade B service. The continued ability of TV stations to provide sufficient signal strength to their remote TV translators, often serving substantial populations, becomes equally important.

For example, the Evening Post station, KRTV, Channel 3, Great Falls, Montana, is retransmitted by a number of TV translators serving a substantial population with quality service. KRTV was allotted DTV Channel 44 with 1000 kW. Calculations indicate that this allotment will seriously impair KRTV's ability to provide adequate signal to many of its remote TV translators. To illustrate, it is calculated that a translator located line-of-sight at a distance of 147 km presently receives a signal strength of $46 \mu\text{V/m}$. This signal coupled with a good receiving antenna at the site permits good quality retransmission by the translator. With DTV Channel 44 and 1000 kW, however, it is calculated that the signal strength that would be produced at the translator site is only $13 \mu\text{V/m}$. Considering that the threshold DTV signal for

Channel 44 is 116 $\mu\text{V}/\text{m}$ and that an adequate signal margin will be required to ensure quality service, KRTV would need to employ other means to provide a signal to the translator site or further increase transmitter power several fold and increase receive-antenna gain.

The Commission is, therefore, requested to adopt a flexible approach to implementing DTV in order to facilitate station's efforts to provide DTV service even to those areas outside of predicted Grade B contours where this service currently exists. This needed flexibility includes (1) longer time frame in which to continue NTSC service and (2) a significantly longer time frame to implement DTV.

COHEN, DIPPELL AND EVERIST, P. C.

TABLE I
PROPOSED CHANNEL 42 DTV TO NTSC
ALLOCATION STUDY
AUGUST 1997

<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Distance</u>	
			<u>Actual</u> km	<u>Required</u> km
N	42	KOAA-DTV Pueblo, CO	--	--
N-15	27	None within 150 km	--	96.6
N-14	28	None within 150 km	--	96.6
N-8	36	None within 150 km	--	96.6
N-7	35	None within 150 km	--	96.6
N-4	38	None within 150 km	--	96.6
N-3	39	None within 150 km	--	96.6
N-2	40	None within 150 km	--	96.6
N-1	41	KRMT Denver, CO	99.5	88.5
N	42	None within 300 km	--	244.6
N+1	43	None within 150 km	--	88.5
N+2	44	None within 150 km	--	96.6
N+3	45	None within 150 km	--	96.6
N+4	46	None within 150 km	--	96.6
N+7	49	None within 150 km	--	96.6
N+8	50	KCEC Denver, CO	114.3	96.6

COHEN, DIPPELL AND EVERIST, P. C.

TABLE II
DTV TO NTSC
FCC CHANNEL 27 ALLOCATION STUDY
AUGUST 1997

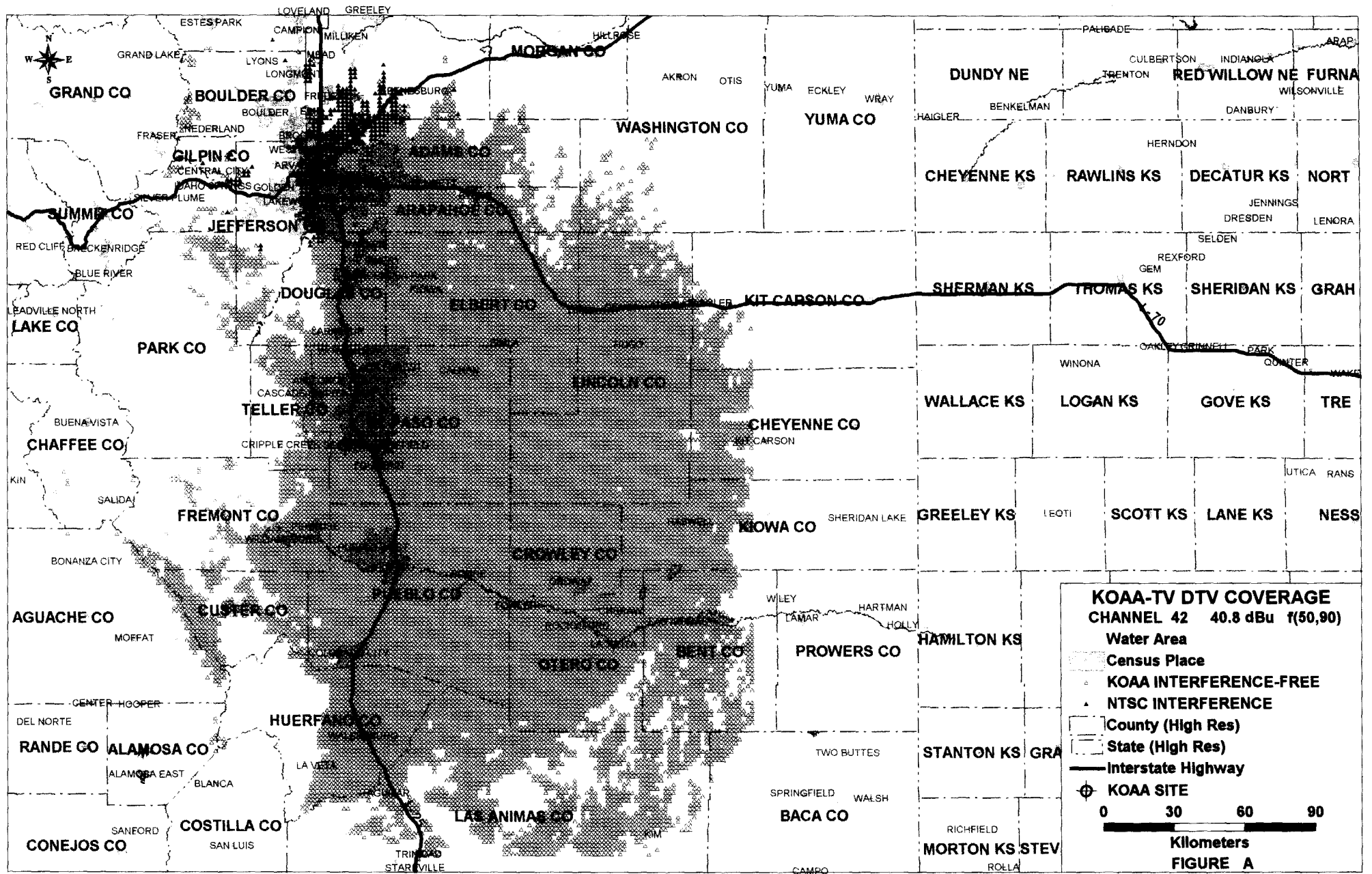
<u>Channel</u>		<u>Call</u>	<u>City/State</u>	<u>Distance</u>	
				<u>Actual</u> km	<u>Required</u> km
N	27	KOAA-DTV	Pueblo, CO	--	--
N-8	19	None within 150 km		--	96.6
N-7	20	KTVD	Denver, CO	107.4	96.6
N-4	23	None within 150 km		--	96.6
N-3	24	None within 150 km		--	96.6
N-2	25	None within 150 km		--	96.6
N-1	26	New	Pueblo, CO	50.5	88.5
N	27	KLWY	Cheyenne, WY	255.8	244.6
N+1	28	None within 150 km		--	88.5
N+2	29	None within 150 km		--	96.6
N+3	30	None within 150 km		--	96.6
N+4	31	KDVR	Denver, CO	113.9	96.6
N+7	34	None within 150 km		--	96.6
N+8	35	None within 150 km		--	96.6

COHEN, DIPPELL AND EVERIST, P. C.

TABLE III
DTV TO DTV
ALLOCATION STUDIES
AUGUST 1997

<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Distance</u>	
			<u>Actual</u> km	<u>Required</u> km
N	42	KOAA-DTV Pueblo, CO	--	--
N-1	41	None within 130 km	--	88.5
N	42	None within 275 km	--	223.7
N+1	43	None within 130 km	--	88.5


<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Distance</u>	
			<u>Actual</u> km	<u>Required</u> km
N	27	KOAA-DTV Pueblo, CO	--	--
N-1	26	None within 150 km	--	88.5
N	27	None within 275 km	--	223.7
N+1	28	None within 130 km	--	88.5



CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing "Joint Supplement to Petition for Reconsideration" was sent on this 22nd day of August 1997 via first class, United States mail, postage prepaid, to the following:

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